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10/537,358

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2651

466 7590 11/04/2008  
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EXAMINER

WEBB, GREGORY E

ART UNIT

PAPER NUMBER

1796

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/537,358	<b>Applicant(s)</b> HIROMITSU ET AL.	
	<b>Examiner</b> Gregory E. Webb	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-23 is/are rejected.
- 7) ☒ Claim(s) 24-28 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Response to Amendment***

1. Applicant's amendment filed 7/24/08 have been entered and considered.

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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2. Claims 10-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Engst (US 5,972,470).

Concerning the rubber layer, Engst, Wilhelm teaches the following:

Before vulcanization, the first and **second layers** (10, 12) are formed with the support layer 14 interposed therebetween in sandwich configuration. The nitrile **rubber layers** (10, 12) are pressed from above and below against the support layer and a certain adherence is provided between the two **rubber layers** made of raw nitrile **rubber**. This step is sufficient so that the **two layers** do not move relative to each other before being introduced into the vulcanization press. Before vulcanization, the nitrile **rubber** of the **two layers** penetrates and extends through the plurality of openings 20 conjointly defined by the warp and weft filaments (16, 18). During vulcanization, the nitrile **rubber layers** (10, 12) become vulcanized and permanently trap the mesh-like support layer therebetween.

Concerning the mold cleaning, Engst, Wilhelm teaches the following:

The absorption mat of the invention protects the ground from harmful compounds. Whether for temporary or fixed installations, the mat is suitable for all areas where oil leakage problems occur. The absorption mat is best recommended for areas of storage, parking, **cleaning** or repair areas of mechanical equipment such as during maintenance

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of motor vehicles and in parking areas for locomotives.

Concerning the unvulcanized, and two layers, Engst, Wilhelm teaches the following:

It is also an object of the invention to provide a method of making the absorption mat of the invention. The method includes the steps of: providing a flat **molded body** having a plate configuration with the body being defined by granulate or shavings made of elastomer and with the granulate or shavings being joined by binding means; providing a mesh-like support layer having a plurality of apertures formed therein; skimming the mesh-like support layer on both sides thereof to form an **unvulcanized** composite base barrier layer having first and **second layers** made of hydrocarbon resistant nitrile **rubber** with the support layer sandwiched therebetween; placing the flat **molded body** atop the composite barrier layer; moving the flat **molded body** and the composite barrier layer together into a vulcanization press; simultaneously vulcanizing the flat **molded body** and the composite barrier layer causing the flat **molded body** and the composite barrier layer to join and causing the nitrile **rubber** of the first and **second layers** to join within the apertures thereby embedding the mesh-like support layer into the composite barrier layer; grabbing the unitary structure of the flat **molded body** and the composite barrier layer so as to engage the support layer and pulling the unitary structure from the vulcanization press; and, cutting a pattern of slots into the flat **molded body** and trimming the edges of the unitary structure thereby completing the making of the absorption mat. BRIEF DESCRIPTION OF THE DRAWINGS

Concerning the heat sealing, Engst, Wilhelm teaches the following:

3. The absorption mat of claim 2, said web including a plurality of warp filaments extending in warp direction and a plurality of weft filaments extending transversely to said warp filaments to define a plurality of intersect points; and, **adhesive** means for joining said warp filaments to said weft filaments at said intersect points.

Concerning the thermoplastic resin, natural rubber, and thermoplastic resin film, Engst, Wilhelm teaches the following:

5. The absorption mat of claim 1, said elastomer being selected from the group consisting of: **natural rubber** elastomer, isoprene **rubber** elastomer, isobutylene isoprene copolymer elastomer, butadiene **rubber** elastomer and **thermoplastic** elastomer.

Concerning the rubber, porosity, moldable body, and mold, Engst, Wilhelm teaches the following:

7. The absorption mat of claim 1, wherein said granulate or said shavings of said **molded body** are **porous** and are made of a material selected from the group consisting of cellular **rubber**, microcellular **rubber** and foam **rubber**.

3. Claims 10-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe et al (US 4,469,729).

Concerning the mold cleaning, Watanabe, Shigetaka teaches the following:

No "joint cracking phenomenon" was observed. Therefore, surface **cleaning** may be positively carried out in the same manner as in the handrail. The rubber belt of such a composition may effectively be used as a belt for conveying meat, fishes and shellfishes in the food industry and the medical industry, and as a power-transmitting belt by making the best use of the characteristic features of the hard surface film.

Concerning the heat sealing, Watanabe, Shigetaka teaches the following:

This invention relates to a **flexible** article comprising **rubberlike** body having a surface hard film, e.g., a hose, a handrail, a belt or a diaphragm, wherein a **fiber layer** comprising non-woven or woven fabrics is positioned between the surface hard film and the **rubberlike** body by use of an **adhesive** to eliminate generation of the so-called joint cracking phenomenon, i.e., extension of cracking to the **rubberlike** body accompanying cracking at the hard film caused by any shock.

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Concerning the resin film, Watanabe, Shigetaka teaches the following:

The surface hard film of this invention includes a plastic film and a plastic/metal complex film. In more specific, the plastic film includes polyester film (e.g., Mylar, trade name), polyamide films (e.g., Nylon, trade name), triacetate films, polycarbonate films (e.g., Panelyte, trade name), and **fluororesin films**. The plastic/metal complex film includes laminate films of various types of plastic films described above and metals such as aluminum, copper, tin, lead and silver. Various types of hard films mentioned above may directly be caused to adhere to the **fiber layer** in such a manner that: (a) the surface hard films formed in a strip or tape are caused to adhere by use of an **adhesive** agent, (b) a strip of laminate film comprising a plastic film and metallic foil (aluminum foil, copper foil, tin foil, lead foil or silver foil) is caused to adhere by use of an **adhesive** agent, (c) a strip of complex film comprising a plastic film onto which a metal such as aluminum, copper, tin, lead and silver is evaporated is caused to adhere by use of an **adhesive**, and (d) various types of resins and metals described above are caused to adhere to the **fiber layer** by coating including direct spraying.

Concerning the thermoplastic resin, synthetic rubber, natural rubber, and thermoplastic resin film, Watanabe, Shigetaka teaches the following:

The **rubberlike** body of this invention includes **natural rubber**, **synthetic rubber**, and **thermoplastic** polymers showing **rubber** elasticity.



Concerning the tablet, Watanabe, Shigetaka teaches the following:

Suitable **adhesives** for joining the **fiber layer** to the surface hard film or the **rubberlike** body are **rubber** cement and hot-melt **adhesives** (**powder**, film or emulsion). Curing **adhesives** such as epoxy, urethane, and vanish **adhesives** are unsuitable, because they easily cause cracking if cured in the said **fiber layer**. However, the **adhesives** should not be limited to these **adhesives**, and those curing **adhesives** of lower hardness may also be used. The hot-melt **adhesives** include, for example, olefin **adhesives** (commercially available Tuffmer, Admer, Serlin, etc.) and vinylidene chloride **adhesives**. The olefin **adhesives** include, for example, polyethylene, polypropylene, ethylene/vinyl acetate copolymers, ethylene/propylene copolymers, ethylene/ethylacrylate copolymers, ethylene/methacrylate copolymers, and modified polymers thereof.

Concerning the fibrous sheet, rubber, and moldable body, Watanabe, Shigetaka teaches the following:

19. The **flexible** article as claimed in claim 17, wherein the **rubberlike** body is in the form of a hose, said surface film comprising a tape made of a plastic film which is lapped in the longitudinal direction about said **fiber layer**, said fiber tape being spirally lapped about said **rubber**-like body.

Concerning the outermost layer, Watanabe, Shigetaka teaches the following:

FIG. 2 shows a **rubber** hose embodying the invention. A **fiber layer** (fiber tape in this case) 8, which characterizes the invention and comprises a thin layer (Thickness: 30 g/m.sup.2) of non-woven Tetoron fabric 6 and a hot-melt **adhesive** layer (30.mu. thick) laminated on one side thereof, as shown in FIG. 4 is arranged by lapping in a spiral pipe form at the inner periphery of a thick **rubber** hose body 5 comprising **natural rubber**, **synthetic rubber**, etc. with the non-woven fabric 6 outside (i.e., at the larger diameter side). A Mylar film (16.mu. thick) comprising a hard, stiff and thin polyester resin onto which aluminum 9 (7.mu. thick) and a hot-melt film (30.mu. thick) 10 is laminated is arranged by lapping longitudinally with a lapped section 26 as a surface hard film at the inner side (smaller diameter side) of the **fiber layer** 8. A net reinforcing layer 12 and an **outer layer** 13 are formed in the order at the outer periphery of the **rubber** hose body 5, if desired. The reinforcing layer 12 and the **outer layer** 13 may be eliminated or piled up in layers.

Concerning the rubber layer, and unvulcanized, Watanabe, Shigetaka teaches the following:

An example (not shown in the drawings) of a **rubber** hose of such a composition may be formed as follows. A fixed width of a thin Mylar film 11 to one side of which an

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aluminum evaporation layer 9 and a hot-melt **adhesive** layer 10 are provided by adhesion in that order is longitudinally lapped around a mandrel with the hot-melt **adhesive** layer 10 outside to form a surface hard film 11. Then, a fiber tape 8 comprising a non-woven Tetoron fabric 6 and an **adhesive** layer 7 is spirally lapped on to the surface hard film 11 with the **adhesive** 7 inside. Next, an **unvulcanized rubber** comprising, for example, acrylonitrile-butadiene copolymer (NBR) or chloroprene **rubber** (CR) is formed by extrusion over the spirally lapped fiber tape 8 as a **rubber** hose body 5. Since the non-woven Tetoron fabric 6 is laminated by the **adhesive** 7 at a side, and actually holes 14 formed in the non-woven fabric 6 are filled with the **adhesive** 7, the process of covering the fiber tape 8 with the **unvulcanized rubber** is not liable to cause generation of "hold air", i.e., hold of air passed through the holes 14, between the non-woven fabric 6 and the surface hard film comprising Mylar film. In addition, since deformation of the non-woven fabric 6 in the diametric direction is perfectly eliminated at the time of extrusion of **unvulcanized rubber** on to the thin non-woven fabric 6, disturbance of the circular or cylindrical form is not liable to occur. Then, a fiber-reinforcing layer 12 comprising, for example, vinylon or nylon, and an outer **unvulcanized rubber layer** 13 comprising, for example, chlorosulfonated polyethylene (CSM), chloroprene **rubber** (CR), acryl **rubber** (ACM), hydrine **rubber**, or ethylene/propylene terpolymer (EPT) are formed on the **rubber** hose body 5 before vulcanization at heating, and the production of a **rubber** hose is completed. Since the hot-melt **adhesives** 7 and 10 in each layer are molten by heat at vulcanization, the lapped section in the Mylar film 11, the lapped section in the fiber tape 8, and the Mylar

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film 11 and the fiber tape 8 adhere perfectly. Thus, the Mylar film 11 and the fiber tape 8 are formed in a cylindrical shape, respectively. In addition, since generation of "hold air" through the holes 14 does not occur between the surface hard film 11 and the fiber tape 8 at extrusion of the unvulcanized **rubber** hose body 5 on the fiber tape 8, surface roughness due to expanded air of the hard film 11 does not occur. Since the fiber tape 8 comprises the non-woven fabric 6 at the outer side, the non-woven fabric 6 is closely formed in a body with the **rubber** hose body 5 by the anchor effect at vulcanization.

Concerning the two layers, Watanabe, Shigetaka teaches the following:

FIG. 6 is a handrail for use in escalators and automatic lines embodying the invention. A **rubber** handrail body 19 consists of, for example, styrenebutadiene **rubber** (SBR) which is formed in a body with a **rubber**-topped cotton canvas 18 (5 plies) having therein **two layers** of tension members 17 comprising metal wires or synthetic fibers. An embellished **fiber layer** 20 comprising a Tetoron fabric which is dyed or on which patterns, characters and symbols are printed is laminated on the outer periphery of the **rubber** handrail body 19 by use of a hot-melt **adhesive** agent. Furthermore, a surface hard film 21 comprising a thin and transparent Mylar film is laminated on the outer periphery of the **fiber layer** 20.

***Allowable Subject Matter***

4. Claims 24-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. The prior art fails to teach the step of heating the two halves, curing the layers and in particular removing the cleaning material.

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory E. Webb whose telephone number is 571-272-1325. The examiner can normally be reached on 9:00-17:30 (m-f).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gregory E. Webb/  
Primary Examiner, Art Unit 1796

Gregory E. Webb  
Primary Examiner  
Art Unit 1796

gew